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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,675	12/17/2004	Mohammad R. Marzabadi	67442-A-PCT-US	6779

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LUNDBECK RESEARCH USA, INC.
ATTENTION: STEPHEN G. KALINCHAK, LEGAL
215 COLLEGE ROAD
PARAMUS, NJ 07652

EXAMINER

O DELL, DAVID K

ART UNIT	PAPER NUMBER
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1625

MAIL DATE	DELIVERY MODE
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10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,675

Applicant(s)

MARZABADI ET AL.

Examiner

David K. O'Dell

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 15, 16, 19-21 and 29-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 17, 18 and 22-28 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 18 July 2005
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Art Unit: 1625

DETAILED ACTION

1. Claims 1-40 are pending in the current application. Claims 15, 16, 19-21, 29-40 are withdrawn from consideration as being drawn to a non-elected invention. Claims 1-14, 17, 18, 22-26, 27, 28 are under examination.

This application is a 371 of PCT/US03/21391 filed 07/03/2003, which is a CON of 10/189,145 filed 07/03/2002 (now abandoned).

Response to Restriction/Election

2. Applicant's election with traverse of Group I and the species of example 10, in the reply filed on September 28, 2007 is acknowledged. The traversal is on the ground(s) that unity of invention exists. Applicant has quoted the MPEP "if the independent claims avoid the prior art and satisfy the requirement of unity of invention, no problem of lack of unity arises in respect of any claims that depend on independent claims." and "no problem arises in the case of a genus/species situation where the genus claim **avoids the prior art**, provided the genus claim is directed only to alternatives of a similar nature and the species falls entirely within the genus." This is not found persuasive because the genus described by the independent claims is not novel, thus no special technical feature is present. See the 102 rejections below as evidence of the lack of novelty of this genus. The restriction requirement is made FINAL. This application contains claims drawn to a nonelected invention with traverse. A complete reply to this action must include a cancellation of nonelected claims or other appropriate action.

Under examination:

Art Unit: 1625

- I. Claims 1-14, 17, 18, 22-26, 27, 28 drawn to compounds, compositions and processes of making said compositions having a piperidinyl-benzamide-phenyl core as depicted in the structures of claim 4 and claim 22 only. If this group is elected, an election of a single disclosed species of compound is required. Further restriction will be made based on the election.

Objections

3. Claim 1 is objected to for using non-standard abbreviations for variables, when no variable actually exists (due to the restriction requirement). The letter B has an accepted meaning, it is the symbol for the element boron. In the formula of claim 1 there is no variable due to the restriction requirement the structure should be amended to reflect this meaning and the actual ring be drawn in some conventional manner to clearly point out and distinctly describe the invention. Z should be replaced with a carbonyl and the B's should be removed (replaced with an actual ring as in claim 3).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

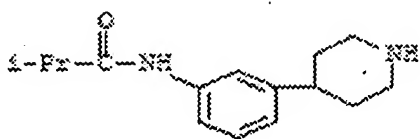
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-3, 26-28 are rejected under 35 U.S.C. 102(a) as being anticipated by Salon, et al. WO 2002002744 A2 (abstract only). Salon teaches a compound of the instant case with the same utility and compositions thereof.

Art Unit: 1625

Where each A is H, each B is CH, Z is carbonyl, n is 1 and on R is H another R is CH₃, and R₄ is CH₃, a compound of the instant claims is produced

RN 387827-32-3 CAPLUS
 CN Propanamide, 2-methyl-N-[3-(4-piperidinyl)phenyl]- (CA INDEX NAME)



The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

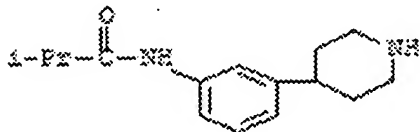
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Salon, et. al. WO 2002002744 A2 (abstract only). Salon teaches a compound of the instant case

Where each A is H, each B is CH, Z is carbonyl, n is 1 and on R is H another R is CH₃, and R₄ is CH₃, a compound of the instant claims is produced

Art Unit: 1625

RN 387827-32-9 CAPLUS
 CN Propanamide, 2-methyl-N-[3-(4-piperidinyl)phenyl]- (CA INDEX NAME)



Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-14, 17, 18, 26, 27, 28 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for certain compounds it does not reasonably provide enablement for the scope of compounds bearing the extensive list of substituents. The compounds that are enabled are as follows:

R should be H, R4 should be limited to phenyl (not aryl or heteroaryl) or C(=O)R3, R2 should be limited to alkyl or phenyl.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement

Art Unit: 1625

and whether any necessary experimentation is "undue." These factors include, but are not limited to the following:

- (A) The breadth of the claims;*
- (B) The nature of the invention;*
- (C) The state of the prior art;*
- (D) The level of one of ordinary skill;*
- (E) The level of predictability in the art;*
- (F) The amount of direction provided by the inventor;*
- (G) The existence of working examples; and*
- (H) The quantity of experimentation needed to make or use the invention*

In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(A) The breadth of the claims: The claims are very broad encompassing all heteroaryls, aryls and other groups bearing multiple substitutions **(B) The nature of the invention:** This is a chemical invention requiring the synthesis of compounds and such compounds should have activity at MCH receptor. **(D) The level of one of ordinary skill:** One of ordinary skill is a practicing organic/medicinal chemist. **(C) The state of the prior art:** **(E) The level of predictability in the art:** **(F) The amount of direction provided by the inventor, (G) The existence of working examples, and (H) The quantity of experimentation needed to make or use the invention:** Each one of the factors **(C, E-H)** will be discussed in light of the scientific literature when such a factor is being directly pointed to a large capital letter referring to the aforementioned Wands factor will be placed directly after such a remark or explication.

The limitations of activity at MCH are well known. What are the important structural features for the claimed utility? It is clear from the data in the specification that the structural features of the compound are of paramount importance for activity. All the compounds have R as H, and more tellingly have a very precise halo substitution pattern with A as fluoro. **(H) The medicinal chemistry of MCH is relatively well-developed and many limitations are well known**

Art Unit: 1625

in the art. (C) It is sensitive to structural changes that may be relatively minor in the chemical sense see some analogous compounds of Guo et. al. "Discovery and SAR of biaryl piperidine MCH1 receptor antagonists through solid-phase encoded combinatorial synthesis" *Bioorganic & Medicinal Chemistry Letters* 2005, 15, 3696–3700, whole document. (F) In particular see the discussion on pg. 3698 paragraph 2, in reference to the substitution of the phenyl group with heteroaryls:

"Replacement of the 3-pyridyl group at R1 with either an alkyl group, such as methyl (8g), or a fused heterobicycle, **such as 5-indolyl (8h), caused potency decreases of 100-fold or more**, relative to 8e. However, replacing the 3-pyridyl at R1 with 3-substituted phenyl groups, such as 3-Cl-, AcHN-, OHC-, or NC-phenyl gave compounds with potency (8i-l, $K_i = 1.4\text{--}5.5\text{ nM}$) similar to that of 8e."

No such compounds bearing heteroaryl groups have been prepared. We have been given little information in regard to the molecular determinants of receptor affinity for the compounds of the instant case. (F & G) In this case these compounds bear a remarkable structural resemblance to one another, yet the claims are not commensurate in scope. The factors outlined in *In Re Wands* mentioned above apply here, and in particular As per the MPEP 2164.01 (a): "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)." It is very clear that one could not make/use this very broad invention that has only four working examples in this unpredictable art without undue experimentation. (C, E, F, G, H).

Art Unit: 1625

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-14, 17, 18, 22-26, 27, 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 11/034,611. Although the conflicting claims are not identical, they are not patentably distinct from each other because they cover the same compounds.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David K. O'Dell whose telephone number is (571) 272-9071. The examiner can normally be reached on Mon-Fri 7:30 A.M.-5:00 P.M EST.

Art Unit: 1625

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary examiner, Rita Desai can be reached on (571)272-0684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D.K.O.

R. Desai
10/11/07
RITA DESAI
PRIMARY EXAMINER